

CRF Errors Corrected by the STIC Systems Branch

CIE 112

CRF Processing Date: 5/16/2001
 Edited by: [Signature]
 Verified by: [Signature] (STIC staff)

Serial Number: 04/848,891

ENTERED

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically: _____
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data, or ☐ other _____
- ☐ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: _____
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: _____
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: _____
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included: _____
- ☒ Deleted extra, invalid, headings used by an applicant, specifically: 41107, 41207
- ☒ Deleted: ☒ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as _____
- ☐ Inserted mandatory headings, specifically: _____
- ☐ Corrected an obvious error in the response, specifically: _____
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa
- ☐ Corrected an error in the Number of Sequences field, specifically: _____
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length" field accordingly (error due to a PatentIn bug). Sequences corrected: _____
- ☐ Other: _____

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/848,841

DATE: 05/27/2001

TIME: 15:31:44

Input Set : A:\Pto.amc

Output Set: C:\CRF3\05272001\I848841.raw

2 <110> APPLICANT: E. I. du Pont de Nemours and Company
 3 Butler, Karla
 4 Falco, Carl
 5 Famodu, Omolayo G.
 6 Fang, Yiwen
 7 Han, Feng
 8 Heppard, Elmer
 9 Liu, Zhan-Bin
 10 Miao, Gu-Hau
 11 Odell, Joan
 12 Rafalski, Antoni
 16 <120> TITLE OF INVENTION: Disease Resistance Factors
 18 <130> FILE REFERENCE: BB1252 US NA1
 C--> 20 <140> CURRENT APPLICATION NUMBER: US/09/848,841
 C--> 21 <141> CURRENT FILING DATE: 2001-05-04
 23 <150> PRIOR APPLICATION NUMBER: 60/107,242
 24 <151> PRIOR FILING DATE: 1998-11-05
 26 <150> PRIOR APPLICATION NUMBER: US99/25,953
 27 <151> PRIOR FILING DATE: 1999-10-04
 29 <160> NUMBER OF SEQ ID NOS: 17
 31 <170> SOFTWARE: Microsoft Office 97
 33 <210> SEQ ID NO: 1
 34 <211> LENGTH: 520
 35 <212> TYPE: DNA
 36 <213> ORGANISM: Zea mays
 38 <220> FEATURE:
 39 <221> NAME/KEY: unsure
 40 <222> LOCATION: (405)..(406)
 42 <220> FEATURE:
 43 <221> NAME/KEY: unsure
 44 <222> LOCATION: (411)
 46 <220> FEATURE:
 47 <221> NAME/KEY: unsure
 48 <222> LOCATION: (417)
 50 <220> FEATURE:
 51 <221> NAME/KEY: unsure
 52 <222> LOCATION: (492)
 54 <220> FEATURE:
 55 <221> NAME/KEY: unsure
 56 <222> LOCATION: (503)
 58 <220> FEATURE:
 59 <221> NAME/KEY: unsure
 60 <222> LOCATION: (513)
 62 <400> SEQUENCE: 1
 63 agagcgcgcgcg ccaataagtc ccccgctgtgc ggcgtctcgc gcggcggcgcg gccgcgcgcg 60
 64 ccgttctctc tcaccaccca ctactcccc gtcaacggcg cgtcggcgtc ggcgtcggcg 120
 65 tcggaggcgcg agcgcgacca cagggtccgc cgcctgcgcg gcgcgcgtgga cgcgcgcgcg 180

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/848,841

DATE: 05/27/2001
TIME: 18:31:44

Input Set : A:\Pto.amc

Output Set: C:\CRF3\05272001\I848841.raw

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66 atcgagctgg tgaagctgat ggtgatgggc gaggggctgg aactggagc ggagctgggc 240
67 gtggaactaag cccgtgcagca ctggggcggc gactgtgtca agggctgtgt ggagctgggc 300
68 ggggagcag tcaactcccg cgcggggccc ggggggaaga cggcgtgtca cctgggggc 360
W--> 69 gagatggtgt ccccgacat ggtgtccgtg ctctcgaac aacannccga ncccagngcc 420
70 gggagctgg aggggtgcaa cccgtctgac gttgtctcgc gggtcaact cccgaagtgc 480
W--> 71 ctcttcaagg gncgcctgg ccngggggtc aancagaatc 520
73 <21> SEQ ID NO: 2
74 <21> LENGTH: 59
75 <21> TYPE: PRT
76 <21> ORGANISM: Sea mays
78 <400> SEQUENCE: 2
79 Val Arg Arg Met Arg Arg Ala Leu Asp Ala Ala Asp Ile Glu Leu Val
80 1 5 10 15
82 Lys Leu Met Val Met Gly Glu Gly Leu Asp Leu Asp Ala Ala Leu Ala
83 20 25 30
85 Val His Tyr Ala Val Gln His Cys Gly Arg Asp Val Val Lys Ala Leu
86 35 40 45
88 Leu Glu Leu Gly Ala Ala Asp Val Asn Ser Arg
89 50 55
91 <210> SEQ ID NO: 3
92 <210> LENGTH: 518
93 <210> TYPE: DNA
94 <210> ORGANISM: Gryza sativa
96 <220> FEATURE:
97 <221> NAME/KEY: unsure
98 <222> LOCATION: (424)
100 <220> FEATURE:
101 <221> NAME/KEY: unsure
102 <222> LOCATION: (441)
104 <220> FEATURE:
105 <221> NAME/KEY: unsure
106 <222> LOCATION: (488)
108 <220> FEATURE:
109 <221> NAME/KEY: unsure
110 <222> LOCATION: (509)
112 <220> FEATURE:
113 <221> NAME/KEY: unsure
114 <222> LOCATION: (517)
116 <220> SEQUENCE: 3
117 ggggagctgc tccgtctgc tctgtgggta cctgtacacg ggcaagctct ggccgggggc 60
118 gnatdaagtg gtgtctgtcg ccgaccccat gtgcgccgac gactcgtgac cgcggggcat 120
119 cgggttaaac gtgagcaaaa tgaacgggc gtggggcttc aagatcaccg agtcatctc 180
120 gctgttcbaa gacggcttc ttaacttctt cgataagact ctagtagaag atgttcttc 240
121 aattctgcaa gttgtttttc attcagagct gactccagtg cttgaaaaat gtattcggag 300
122 atttgcaga tcaattcttg ataattgata gttggataag gaaattcttc caaaagttgc 360
123 ttttcagata aaagagattc gccaaaaaat tggcccaat gaggggtgaca cgttcatttc 420
W--> 124 agancctgta catgagaaaa ngggcagaag aatccacagg ggactggatt ctgatgatgt 480
W--> 125 tgagcttntt aagttgcttc ttaaagaant tgggatnc 518
127 <210> SEQ ID NO: 4

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/848,841

DATE: 05/27/2001

TIME: 18:31:44

Input Set : A:\Pto.amc

Output Set: C:\CRF3\05272001\I848841.raw

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128 <211> LENGTH: 84
129 <211> TYPE: PFT
130 <211> ORGANISM: Oryza sativa
131 <41> SEQUENCE: 4
133 Asp Ala Phe Leu Ser Leu Leu Gly Tyr Leu Tyr Thr Gly Lys Leu Arg
134      1          5          10          15
136 Phe Ala Pro Asp Asp Val Val Ser Cys Ala Asp Pro Met Cys Pro His
137      20          25          30
139 Asp Ser Cys Pro Pro Ala Ile Arg Phe Asn Val Glu Gln Met Tyr Ala
140      35          40          45
142 Ala Trp Ala Phe Lys Ile Thr Glu Leu Ile Ser Leu Phe Gln Arg Arg
143      50          55          60
145 Leu Leu Asn Phe Val Asp Lys Thr Leu Val Glu Asp Val Leu Pro Ile
146      65          70          75          80
148 Leu Gln Val Ala
151 <211> SEQ ID NO: 5
152 <211> LENGTH: 642
153 <211> TYPE: DNA
154 <211> ORGANISM: Triticum aestivum
156 <211> FEATURE:
157 <211> NAME/KEY: unsure
158 <220> LOCATION: (26)
160 <220> FEATURE:
161 <221> NAME/KEY: unsure
162 <222> LOCATION: (321)
164 <220> FEATURE:
165 <221> NAME/KEY: unsure
166 <222> LOCATION: (335)
168 <220> FEATURE:
169 <221> NAME/KEY: unsure
170 <222> LOCATION: (403)
172 <220> FEATURE:
173 <221> NAME/KEY: unsure
174 <222> LOCATION: (408)
176 <220> FEATURE:
177 <221> NAME/KEY: unsure
178 <222> LOCATION: (420)
180 <220> FEATURE:
181 <221> NAME/KEY: unsure
182 <222> LOCATION: (474)
184 <220> FEATURE:
185 <221> NAME/KEY: unsure
186 <222> LOCATION: (498)
188 <220> FEATURE:
189 <221> NAME/KEY: unsure
190 <222> LOCATION: (508)
192 <220> FEATURE:
193 <221> NAME/KEY: unsure
194 <222> LOCATION: (510)

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/848,841

DATE: 05-27-2001
TIME: 18:31:44

Input Set : A:\Pto.amc

Output Set: C:\CRF3\05272001\I848841.raw

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196 <220> FEATURE:
197 <211> NAME/KEY: unsure
198 <212> LOCATION: (563)
199 <220> FEATURE:
200 <211> NAME/KEY: unsure
201 <212> LOCATION: (565)
202 <220> FEATURE:
203 <211> NAME/KEY: unsure
204 <212> LOCATION: (583)
205 <220> FEATURE:
206 <211> NAME/KEY: unsure
207 <212> LOCATION: (609)..(610)
208 <220> FEATURE:
209 <211> NAME/KEY: unsure
210 <212> LOCATION: (617)
211 <220> FEATURE:
212 <211> NAME/KEY: unsure
213 <212> LOCATION: (619)
214 <220> SEQUENCE: 5
W--> 221 cagggccaag agtcaaataa agatangatg tgcattgaca tctagagag ggagatgatg 60
      222 aggaatccta tgacagcgga agattctgtc acctcaccct tattggtga tgatcttcac 120
      223 atgaaactaa gctacctgga aaacagagtc gcggttcgaa gactgttctt cctgctgaa 180
      224 gccaagggtt gcatgcaaat tgcacaagca gacgtcacac cagaagttgg tggttttctt 240
      225 gcagcaagta cttctggtta actgagggaa gtcatctga atgagacgcc aagtaacaaa 300
W--> 226 aaacaaaagg ctgcgttcaa nggtggatgc actangcgaa aacagtggaa ctggggccgtc 360
W--> 227 ggtacttccc aaactgctcg caagtgtctg acaaattctt ggnagatngc ctgcctgatn 420
W--> 228 gccttgatcg ttcaacacaa acggcacccct gatgaacaac aggtgaagaa atcncctctc 480
W--> 229 aagtgaacga tgacttcnca aacatcanan agaacgggcg ataaagattt ttgggccgtc 540
W--> 230 taaatcctcg tctcgggata agnangggat tacagtgttc canagcaggc aaagggtcctg 600
W--> 231 caagccttnn ggcacancnt aacgatttca taaggggcca at 642
233 <210> SEQ ID NO: 6
234 <211> LENGTH: 60
235 <212> TYPE: PRT
236 <213> ORGANISM: Triticum aestivum
238 <220> FEATURE:
239 <221> NAME/KEY: UNSURE
240 <222> LOCATION: (9)
242 <400> SEQUENCE: 6
W--> 243 Cln Gly Gln Glu Ser Asn Lys Asp Xaa Met Cys Ile Asp Ile Leu Glu
      244 1 5 10 15
      245 Arg Glu Met Met Arg Asn Pro Met Thr Ala Glu Asp Ser Val Thr Ser
      246 20 25 30
      247 Leu Leu Ala Asp Asp Leu His Met Lys Leu Ser Tyr Leu Glu Asn
      248 35 40 45
      249 Arg Val Ala Phe Ala Arg Leu Phe Phe Pro Ala Glu
      250 50 55 60
255 <210> SEQ ID NO: 7
256 <211> LENGTH: 1227
257 <212> TYPE: DNA

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/848,841

DATE: 18-12-2001

TIME: 18:31:44

Input Set : A:\Pto.amc

Output Set: C:\CRF3\05272001\I848841.raw

258 <213> ORGANISM: Zea mays

260 <400> SEQUENCE: 7

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261 agttgatgag ataaaaaatt tgcgcaagaa gtcacaaaact gctgatgggtg atacgttcat    60
262 ttgggaacct gtgcattgaga aaagagtcag aagaatccac agggcaacttg actctgatga   110
263 tggtagagtt gtgaagttgc ttcttaatga gtccgacatc acattagatg atgccaaagc   160
264 attaacatct gctgtttctt actgtgatcc taaagtgtgc tcagagctgt tagatttggc   210
265 aatggctaac ttaattttga agaattggcg tgggtacaca gaactccact tggctgctat   260
266 gaggagagaa ccagctataa tcattgtgtc ccttaacaaa ggggcaaatg tgcacaaact   310
267 gacagctgat ggcaggagcg caattgggtt ttgtcggagg ttaacaagag caaaagacta   360
268 caatacaaaag atggagcagg gtcaagaatc aaataaagat aggtgtgtga tagatattct   410
269 agagaggagg atgatgggga atcctatggc ggttgaagat gccgtcacct cgcctttggt   460
270 ggcagatgat cttcacatga agctttctct cctggaaaac agagtgtcat ttgctagatt   510
271 gttctttctt gctgaagcca aggttgcctt gcaaatcgca caagcagaca ccacagaaga   560
272 attcggcggt atagttgcag ttgcagcaag cactttctgt aaactgaggg aggtggacct   610
273 taatgagaag ccagtgacac aaaaacaaaag gctcgttcca agggtagatg caatgatgaa   660
274 aacagtgag gtgggtcggt ggtacttcct gaactgtctg caggtgtctg acaagttctt   710
275 ggaggacgat ctgcgggaag gtctggacca gttctacctc cagaggggga cagccgatga   760
276 gcagaagggt aagaggatgc gctttctgga gctgaaagag gacgtgtctg aggcgttttag   810
277 caaggacaag ggggaggcca gctgtttctc gggcctgtcc tcgtcgtctg cgtgctcgcc   860
278 gccccagaag tatgaccaga ggtgatcaag gcaccagttt ttgcgtata gtttggttat   910
279 atggtctctg agacttgac ccggacagca tatagggaca tgtacacctg tgtatgtata   960
280 gtgcttaciaa ttggtgtaag tagaactata tgtatggaac ataaggaaac atggcaggaa  1010
281 caccgtgcaa aaagatgaaa aaaaaaa    1227

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283 <210> SEQ ID NO: 8

284 <211> LENGTH: 325

285 <212> TYPE: PRT

286 <213> ORGANISM: Zea mays

288 <400> SEQUENCE: 8

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289 Pro Val His Glu Lys Arg Val Arg Arg Ile His Arg Ala Leu Asp Ser
290   1             5             10             15
292 Asp Asp Val Glu Leu Val Lys Leu Leu Leu Asn Glu Ser Asp Ile Thr
293             20             25             30
295 Leu Asp Asp Ala Asn Ala Leu His Tyr Ala Ala Ser Tyr Cys Asp Pro
296             35             40             45
298 Lys Val Val Ser Glu Leu Leu Asp Leu Ala Met ala Asn Leu Asn Leu
299             50             55             60
301 Lys Asn Ser Arg Gly Tyr Thr Ala Leu His Leu Ala Ala Met Arg Arg
302   65             70             75             80
304 Glu Pro Ala Ile Ile Met Cys Leu Leu Asn Lys Gly Ala Asn Val Ser
305             85             90             95
307 Gln Leu Thr Ala Asp Gly Arg Ser Ala Ile Gly Ile Cys Arg Arg Leu
308             100            105            110
310 Thr Arg Ala Lys Asp Tyr Asn Thr Lys Met Glu Gln Gly Gln Glu Ser
311             115            120            125
313 Asn Lys Asp Arg Leu Cys Ile Asp Ile Leu Glu Arg Glu Met Met Arg
314             130            135            140
316 Asn Pro Met Ala Val Glu Asp Ala Val Thr Ser Pro Leu Leu Ala Asp
317   145            150            155            160
319 Asp Leu His Met Lys Leu Leu Tyr Leu Glu Asn Arg Val Ala Phe Ala

```

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/848,841

DATE: 05/27/2001

TIME: 16:31:45

Input Set : A:\Pto.amc

Output Set: C:\CRF3\05272001\I848841.raw

L:20 M:270 C: Current Application Number differs, Replaced Application Number
L:21 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:69 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:1
L:69 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:71 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:1
L:71 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:124 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:124 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:125 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:125 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:221 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:221 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:226 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:226 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:227 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:227 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:228 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:228 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:229 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:229 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:230 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:230 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:231 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:231 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:243 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:6
L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:524 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:11
L:524 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11

OIPE

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/848,841

DATE: 05/16/2001
 TIME: 13:31:26

Input Set : A:\BB1252 US NA1 Seq Listing.txt
 Output Set: N:\CRF3\05162001\I848841.raw

3 <11> APPLICANT: E. I. du Pont de Nemours and Company
 W--> 4 <110> APPLICANT: Butler, Karla
 W--> 5 Falco, Carl
 W--> 6 Famodu, Omolayo O.
 W--> 7 Fang, Yiwen
 W--> 8 Han, Feng
 W--> 9 Heppard, Elmer
 W--> 10 Liu, Zhan-Bin
 W--> 11 Miao, Gou-Hau
 W--> 12 Odell, Joan
 W--> 13 Rafalski, Antoni
 17 <120> TITLE OF INVENTION: Disease Resistance Factors
 19 <130> FILE REFERENCE: BB1252 US NA1
 C--> 21 <140> CURRENT APPLICATION NUMBER: US/09/848,841
 C--> 22 <141> CURRENT FILING DATE: 2001-05-04
 24 <150> PRIOR APPLICATION NUMBER: 60/107,242
 25 <151> PRIOR FILING DATE: 1998-11-05
 27 <150> PRIOR APPLICATION NUMBER: US99/25,953
 28 <151> PRIOR FILING DATE: 1999-10-04
 W--> 30 <120> TITLE OF INVENTION: Disease Resistance Factors
 W--> 30 <120> TITLE OF INVENTION: Disease Resistance Factors
 32 <160> NUMBER OF SEQ ID NOS 17
 34 <170> SOFTWARE: Microsoft Office 97

Does Not Comply
 Corrected Diskette Needed

ERRORED SEQUENCES

904 <210> SEQ ID NO: 17
 905 <211> LENGTH: 593
 906 <212> TYPE: PRT
 907 <213> ORGANISM: Arabidopsis thaliana
 909 <400> SEQUENCE: 17
 910 Met Asp Thr Thr Ile Asp Gly Phe Ala Asp Ser Tyr Glu Ile Ser Ser
 911 1 5 10 15
 913 Thr Ser Phe Val Ala Thr Asp Asn Thr Asp Ser Ser Ile Val Tyr Leu
 914 20 25 30
 916 Ala Ala Glu Gln Val Leu Thr Gly Pro Asp Val Ser Ala Leu Gln Leu
 917 35 40 45
 919 Leu Ser Asn Ser Phe Glu Ser Val Phe Asp Ser Pro Asp Asp Phe Tyr
 920 50 55 60
 922 Ser Asp Ala Lys Leu Val Leu Ser Asp Gly Arg Glu Val Ser Phe His
 923 65 70 75 80
 925 Arg Cys Val Leu Ser Ala Arg Ser Ser Phe Phe Lys Ser Ala Leu Ala
 926 85 90 95
 928 Ala Ala Lys Lys Glu Lys Asp Ser Asn Asn Thr Ala Ala Val Lys Leu
 929 100 105 110
 931 Glu Leu Lys Glu Ile Ala Lys Asp Tyr Glu Val Gly Phe Asp Ser Val

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/848,841

DATE: 05/16/2001
TIME: 10:11:26Input Set: A:\BB1252 US NAI Seq Listing.txt
Output Set: N:\CRF3\05162001\I848841.raw

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115      120      125
934 Val Thr Val Leu Ala Tyr Val Tyr Ser Ser Ala Val Arg Pro Phe Pro
935      130      135      140
937 Lys Gly Val Ser Glu Cys Ala Asp Glu Asn Cys Cys His Val Ala Cys
938 145      150      155      160
941 Arg Pro Ala Val Asp Phe Met Leu Glu Val Leu Tyr Leu Ala Phe Ile
942      165      170      175
943 Phe Lys Ile Pro Glu Leu Ile Thr Leu Tyr Glu Arg His Leu Leu Asp
944      180      185      190
946 Val Val Asp Lys Val Val Ile Glu Asp Thr Leu Val Ile Leu Lys Leu
947      195      200      205
949 Ala Asn Ile Cys Gly Lys Ala Cys Met Lys Leu Leu Asp Arg Cys Lys
950      210      215      220
952 Glu Ile Ile Val Lys Ser Asn Val Asp Met Val Ser Leu Glu Lys Ser
953 225      230      235      240
955 Leu Pro Glu Glu Leu Val Lys Glu Ile Ile Asp Arg Arg Lys Glu Leu
956      245      250      255
958 Gly Leu Glu Val Pro Lys Val Lys Lys His Val Ser Asn Val His Lys
959      260      265      270
961 Ala Leu Asp Ser Asp Asp Ile Glu Leu Val Lys Leu Leu Lys Glu
962      275      280      285
964 Asp His Thr Asn Leu Asp Asp Ala Cys Ala Leu His Phe Ala Val Ala
965      290      295      300
967 Tyr Cys Asn Val Lys Thr Ala Thr Asp Leu Leu Lys Leu Asp Leu Ala
968 305      310      315      320
970 Asp Val Asn His Arg Asn Pro Arg Gly Tyr Thr Val Leu His Val Ala
971      325      330      335
973 Ala Met Arg Lys Glu Pro Gln Leu Ile Leu Ser Leu Leu Glu Lys Gly
974      340      345      350
976 Ala Ser Ala Ser Glu Ala Thr Leu Glu Gly Arg Thr Ala Leu Met Ile
977      355      360      365
979 Ala Lys Gln Ala Thr Met Ala Val Glu Cys Asn Asn Ile Pro Glu Gln
980      370      375      380
982 Cys Lys His Ser Leu Lys Gly Arg Leu Cys Val Glu Ile Leu Glu Gln
983 385      390      395      400
985 Glu Asp Lys Arg Glu Gln Ile Pro Arg Asp Val Pro Pro Ser Phe Ala
986      405      410      415
988 Val Ala Ala Asp Glu Leu Lys Met Thr Leu Leu Asp Leu Glu Asn Arg
989      420      425      430
991 Val Ala Leu Ala Gln Arg Leu Phe Pro Thr Glu Ala Gln Ala Ala Met
992      435      440      445
994 Glu Ile Ala Glu Met Lys Gly Thr Cys Glu Phe Ile Val Thr Ser Leu
995      450      455      460
997 Glu Pro Asp Arg Leu Thr Gly Thr Lys Arg Thr Ser Pro Gly Val Lys
998 465      470      475      480
1000 Ile Ala Pro Phe Arg Ile Leu Glu Glu His Gln Ser Arg Leu Lys Ala
1001      485      490      495
1003 Leu Ser Lys Thr Val Glu Leu Gly Lys Arg Phe Phe Pro Arg Cys Ser
1004      500      505      510

```

RAW SEQUENCE LISTING

PATENT APPLICATION NO. US/09/848,841

DATE: 05/16/2001

TIME: 11:11:26

Input Set : A:\BB1252 US NA1 Seq Listing.txt
 Output Set: N:\CRF3\05162001\I848841.raw

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1006 Ala Val Leu Asp Gln Ile Met Asn Cys Glu Asp Leu Thr Gln Leu Ala
1007      515      520      525
1009 Cys Gly Glu Asp Asp Thr Ala Glu Lys Arg Leu Gln Lys Lys Gln Arg
1010      530      535      540
1012 Tyr Met Glu Ile Gln Glu Thr Leu Lys Lys Ala Phe Ser Glu Asp Asn
1013      545      550      555      560
1015 Leu Glu Leu Gly Asn Ser Ser Leu Thr Asn Ser Thr Ser Ser Thr Ser
1016      565      570      575
1018 Lys Ser Thr Gly Gly Lys Arg Ser Asn Arg Lys Leu Ser His Arg Arg
1019      580      585      590
1021 Arg-
E--> 1023 1. Docket Number

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VERIFICATION SUMMARY

PATIENT AFFILIATION: N: US/09/848,841

DATE: 05/14/2001

TIME: 13:31:27

Input Set: A:\BBI252 US NAI Seq Listing.txt

Output Set: N:\CRF3\05162001\I848841.raw

L:4 M:181 W: Numeric Identifier already exists. <117> found multiple times
 L:21 M:271 C: Current Application Number differs. Replaced Application Number
 L:21 M:271 C: Current Filing Date differs. Replaced Current Filing Date
 L:31 M:281 W: Numeric Identifier already exists. <120> found multiple times
 L:31 M:281 W: Numeric Fields not Ordered. <120> not ordered..
 L:72 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:1
 L:72 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:1
 L:74 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:1
 L:74 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:1
 L:127 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:3
 L:127 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:3
 L:128 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:3
 L:128 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:3
 L:224 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:5
 L:224 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:5
 L:229 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:5
 L:229 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:5
 L:230 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:5
 L:230 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:5
 L:231 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:5
 L:231 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:5
 L:231 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:5
 L:231 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:5
 L:233 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:5
 L:233 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:5
 L:234 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:5
 L:234 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:5
 L:246 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:6
 L:246 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:6
 L:527 M:258 W: Mandatory Feature missing. <223> not found for SEQ ID#:11
 L:527 M:341 W: (46) "n" or "Xaa" used. for SEQ ID#:11
 L:1023 M:332 E: (32) Invalid/Missing Amino Acid Numbering. SEQ ID:17
 L:1023 M:333 E: Wrong sequence grouping. Amino acids not in groups:
 L:1023 M:320 E: (1) Wrong Nucleic Acid Designator. NUMBER OF INVALID KEYS:2
 L:1023 M:252 E: No of Seq. differs. <211>LENGTH:Input:593 Found:595 SEQ:17